Center Independent Research & Development: GSFC IRAD

Improving Global Space Weather Forecasting Using EUV Imaging

Completed Technology Project (2014 - 2015)

Project Introduction

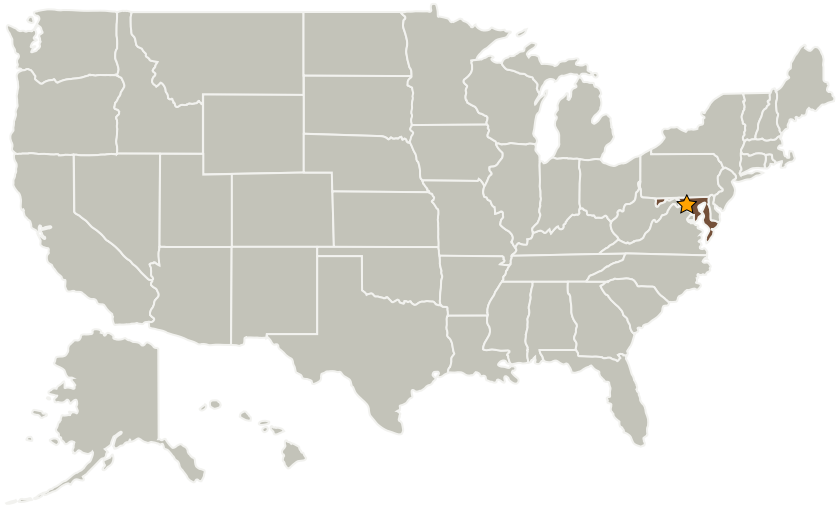
Develop and test a method for improving our ability to predict space weather using EUV imaging.

Develop and test a method for improving models of coronal mass ejection (CME) propagation through the inner heliosphere that uses STEREO mission extreme ultraviolet (EUV) imaging to improve the model used in the Combined Community Modeling Center (CCMC) for CME prediction. Results will be tested by comparison of CME arrival times at the STEREO spacecraft with and without the improved model.

Anticipated Benefits

Project would enhance ability of NASA to protect its space missions throughout the inner solar system.

Primary U.S. Work Locations and Key Partners



Organizations Performing Work	Role	Type	Location
★Goddard Space Flight Center(GSFC)	Lead Organization	NASA Center	Greenbelt, Maryland
Artep Inc.	Supporting Organization	Industry	

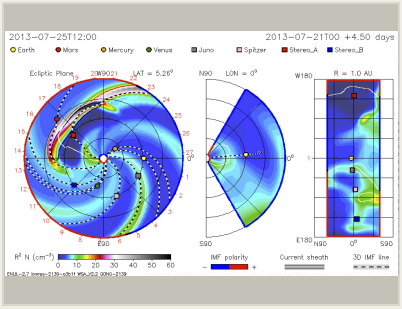


Image from model predicting CME trajectory through the inner solar system

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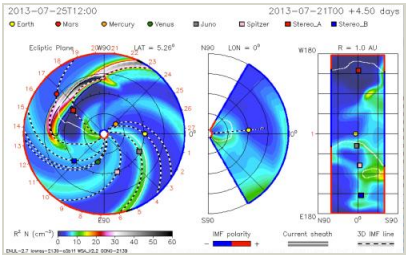
Primary U.S. Work Locations

Maryland

Images



Model of CME Propagating Through the Inner Solar System
Image from model predicting CME trajectory through the inner solar system
(https://techport.nasa.gov/image/4194)

Links

NTR 1437686070
(no url provided)

Project Website:

http://swrc.gsfc.nasa.gov/main/

Organizational Responsibility

Responsible Mission Directorate:
Mission Support Directorate (MSD)

Lead Center / Facility:
Goddard Space Flight Center (GSFC)

Responsible Program:
Center Independent Research & Development: GSFC IRAD

Project Management

Program Manager:
Peter M Hughes

Project Manager:
Nikolaos Paschalidis

Principal Investigator:
Therese A Kucera

Co-Investigator:
Antti A Pulkkinen

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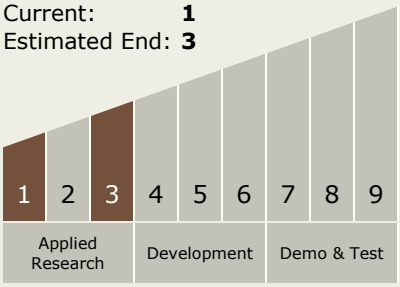
Completed Technology Project (2014 - 2015)

Technology Maturity (TRL)

Start: **1**
Current: **1**
Estimated End: **3**



Technology Areas

Primary:

- TX06 Human Health, Life Support, and Habitation Systems
  - TX06.5 Radiation
    - TX06.5.4 Space Weather Prediction